

WHAT IS CLAIMED IS:

1                   1.     A controller for a motor driven device comprising a motor that draws a  
2     current from a power supply to induce a forward motion in response to a load, said controller  
3     being adapted to be connected to said motor and to detect a motor parameter indicative of the  
4     value of said load, said controller being further adapted to pulse said current "on" and "off" at  
5     a first predetermined cycle frequency when the value of said motor parameter exceeds a first  
6     predetermined value for a first predetermined period, each "on" cycle of said first  
7     predetermined cycle frequency being of sufficient duration to allow said motor to draw  
8     sufficient current in response to said load.

1                   2.     A controller according to claim 1, wherein each "on" cycle of the first  
2     predetermined cycle frequency is of sufficient duration to maintain sufficient current to the  
3     motor to normalize the forward motion.

1                   3.     A controller according to claim 1, wherein each "off" cycle of the first  
2     predetermined cycle frequency is of sufficient duration to allow the motor to be substantially  
3     released from the forward motion.

1                   4.     A controller according to claim 1, wherein the duration of each "on"  
2     cycle or each "off" cycle of the first predetermined cycle frequency ranges from 0.1 second to  
3     13 seconds.

1                   5.     A controller according to claim 1, wherein the power supply is a  
2     limited DC source.

1                   6.     A controller according to claim 1, wherein the controller is adapted to  
2     pulse the current "on" and "off" for a first predetermined duration.

1                   7.     A controller according to claim 1, wherein the controller is adapted to  
2     pulse the current "on" and "off" until the controller is re-set by manually cutting off the  
3     power supply to the motor.

1                   8.     A controller according to claim 1, wherein the motor has a reverse  
2     motion and the controller is adapted to release the motor from said forward motion and  
3     induce the motor to said reverse motion when the value of said motor parameter exceeds a

4 second predetermined value for a second predetermined period, said second predetermined  
5 value being greater than said first predetermined value.

1 9. A controller according to claim 8, wherein the controller is adapted to  
2 induce the motor to the reverse motion for a second predetermined duration.

1 10. A controller according to claim 8, wherein the controller is adapted to  
2 induce the motor to the reverse motion until the controller is re-set by manually cutting off  
3 the power supply to the motor.

1 11. A controller according to claim 8, wherein the power supply is a  
2 limited DC source.

1 12. A controller for a motor driven device comprising a motor that draws a  
2 current from a power supply to induce a forward motion in response to a load, said controller  
3 being adapted to be connected to the motor and to detect a motor parameter indicative of the  
4 value of said load, said controller being further adapted to release the motor from said  
5 forward motion and induce the motor to a reverse motion for a predetermined duration when  
6 the value of said motor parameter exceeds a predetermined value for a predetermined period.

1 13. A motor driven device, comprising  
2 a motor that draws a current from a power supply to induce a forward motion  
3 in response to a load, and  
4 a controller connected to the motor and for detecting a motor parameter  
5 indicative of the value of the load and for pulsing the current "on" and "off" at a first  
6 predetermined cycle frequency when the value of the motor parameter exceeds a first  
7 predetermined value for a first predetermined period, each "on" cycle of the first  
8 predetermined cycle frequency being of sufficient duration to allow the motor to draw  
9 sufficient current in response to the load.

1 14. A motor driven device according to claim 13, wherein each "on" cycle  
2 of the first predetermined cycle frequency is of sufficient duration to maintain sufficient  
3 current to the motor to normalize the forward motion.

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1                   15.     A motor driven device according to claim 13, wherein each "off" cycle  
2 of the first predetermined cycle frequency is of sufficient duration to allow the motor to be  
3 substantially released from the forward motion.

1                   16.     A motor driven device according to claim 13, wherein the motor has a  
2 reverse motion and the controller is adapted to release the motor from the forward motion and  
3 induce the motor to the reverse motion when the value of the motor parameter exceeds a  
4 second predetermined value for a second predetermined period, said second predetermined  
5 value being greater than said first predetermined value.

1                   17.     A motor driven device according to claim 13, further comprising a  
2 battery as source of the power supply.

1                   18.     A motor driven device, comprising  
2 a motor that draws a current from a power supply to induce a forward motion  
3 in response to a load, and  
4 a controller connected to the motor and for detecting a motor parameter  
5 indicative of the value of the load and for releasing the motor from the forward motion and  
6 inducing the motor to a reverse motion for a predetermined duration when the value of the  
7 motor parameter exceeds a predetermined value for a predetermined period.

1                   19.     A motor driven device according to claim 13, further comprising a  
2 battery as source of the power supply.

1                   20.     A method of controlling a motor driven device having a motor that  
2 draws a current from a power supply to induce a forward motion in response to a load, said  
3 method comprising:

4                   detecting a motor parameter indicative of the value of the load, and  
5                   pulsing the current "on" and "off" at a first predetermined cycle frequency  
6 when the value of said motor parameter exceeds a first predetermined value for a first  
7 predetermined period, each "on" cycle of said first predetermined cycle frequency being of  
8 sufficient duration to allow the motor to draw sufficient current in response to the load.

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1                   21.     A method according to claim 20, wherein each "on" cycle of the first  
2 predetermined cycle frequency is of sufficient duration to maintain sufficient current to the  
3 motor to normalize the forward motion.

1                   22.     A method according to claim 20, wherein each "off" cycle of the first  
2 predetermined cycle frequency is of sufficient duration to allow the motor to be substantially  
3 released from the forward motion.

1                   23.     A method according to claim 20, wherein the duration of each "on"  
2 cycle of the first predetermined cycle frequency ranges from 0.1 second to 13 seconds.

1                   24.     A method according to claim 20, wherein the current is pulsed "on"  
2 and "off" for a first predetermined duration.

1                   25.     A method according to claim 20, wherein the current is pulsed "on"  
2 and "off" until the current is re-set by manually cutting off the power supply to the motor.

1                   26.     A method according to claim 20, wherein the power is supplied from a  
2 limited DC source.